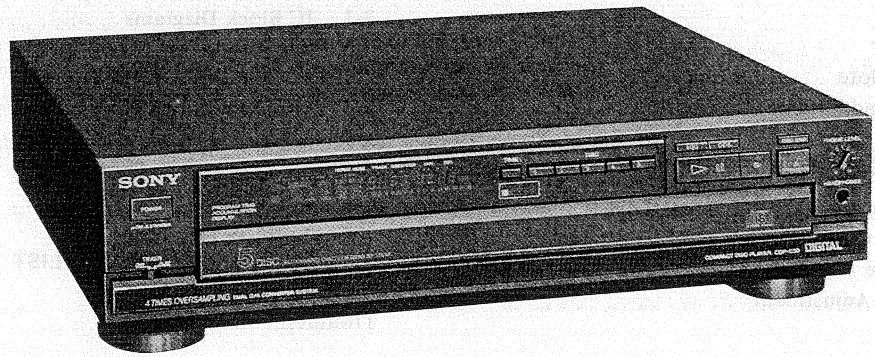
CDP-C40

SERVICE MANUAL

US Model
E Model



COMPACT disc DIGITAL AUDIO

SPECIFICATIONS

COMPACT DISC PLAYER

System: Compact disc digital audio system

Laser: Semiconductor laser (λ = 780 nm)
Emission duration: continuous

Laser output: Max. 44.6 μW*
* This output is the value measured at a distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.

Frequency response
2 Hz – 20 kHz (±1.0 dB)

Signal to noise ratio
More than 100 dB

Dynamic range: More than 88 dB

Harmonic distortion
Less than 0.05% (1 kHz)

Channel separation
More than 95 dB (1 kHz)

Wow and flutter: Below measurable limit

Outputs: LINE OUT (phono jacks)
Output level 2 V (at 50 kilohms)
Load impedance over 10 kilohms

General

Power requirements
US model: 120 V AC, 60 Hz
E model: 110–120 or 220–240 V AC, adjustable, 50/60 Hz

Power consumption
12 W

Dimensions: Approx. 430 × 110 × 385 mm (w/h/d)
(17 × 4 3/8 × 15 1/4 inches)
not including projecting parts and controls

Weight: Approx. 5.7 kg (12 lbs 10 oz), net

SUPPLIED ACCESSORIES

Audio signal connecting cord
(phono plug × 2←→phono plug × 2) (1)

Features

The compact disc player is equipped with 5 disc trays which allow you to choose from a large number and wide variety of selections.

Any disc at any time
can be played using the DISC SELECT buttons.

Multiple functions include:
- PROGRAM play which allows you to play up to 32 selections on any disc in any desired order.
- SHUFFLE play for playing selections in random order.
- REPEAT play for playing a single selection, a single disc, or all the discs again.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

COMPACT DISC PLAYER

SONY®

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

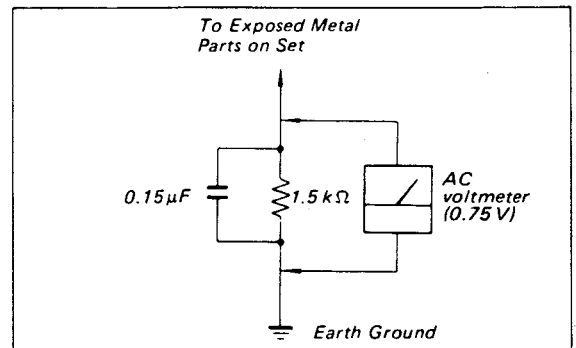
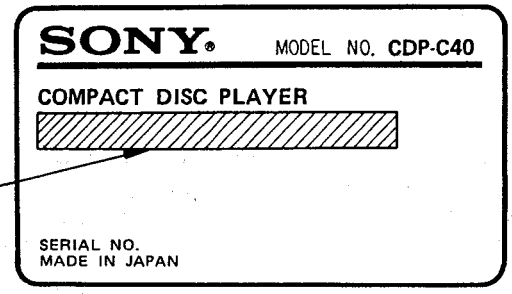


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

– Specification Labels –

US model: AC: 120 V ~ 60 Hz 12 W
E model: AC: 110–120 V, 220–240 V ~ 50/60 Hz 12 W



SECTION 1
GENERAL

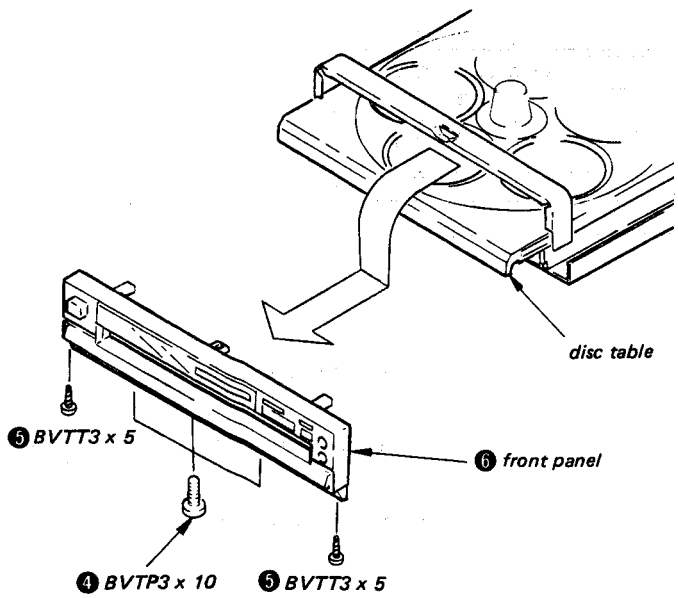
1-1. SERVICING NOTE

FRONT PANEL REMOVAL

Note: Follow the disassembly procedure in the numerical order given.

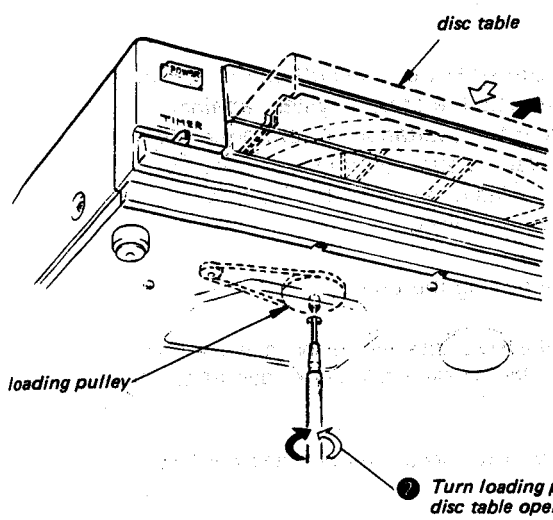
A. When disc table opens automatically by pressing OPEN/CLOSE button;

❶ *Remove top cover.*
❷ *Press POWER switch to turn the power on.*
❸ *Press OPEN/CLOSE button to open disc table.*



B. When disc table dols not open even if OPEN/CLOSE button is pressed;

❶ *Remove top cover.*
❸ *Perform steps A-4 to A-6.*



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

LASER DIODE AND FOCUS SERCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the operation indicated in Fig. A is performed while observing the objecting lens.

(1) *Confirm that laser beam is spread.*
(2) *Up and down motion of the objective lens. (3 times)*

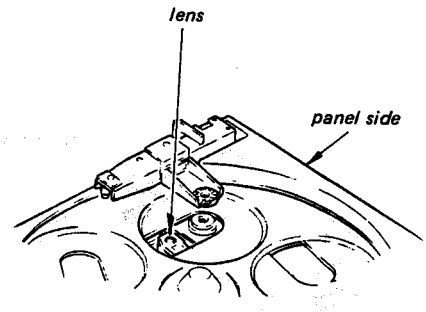
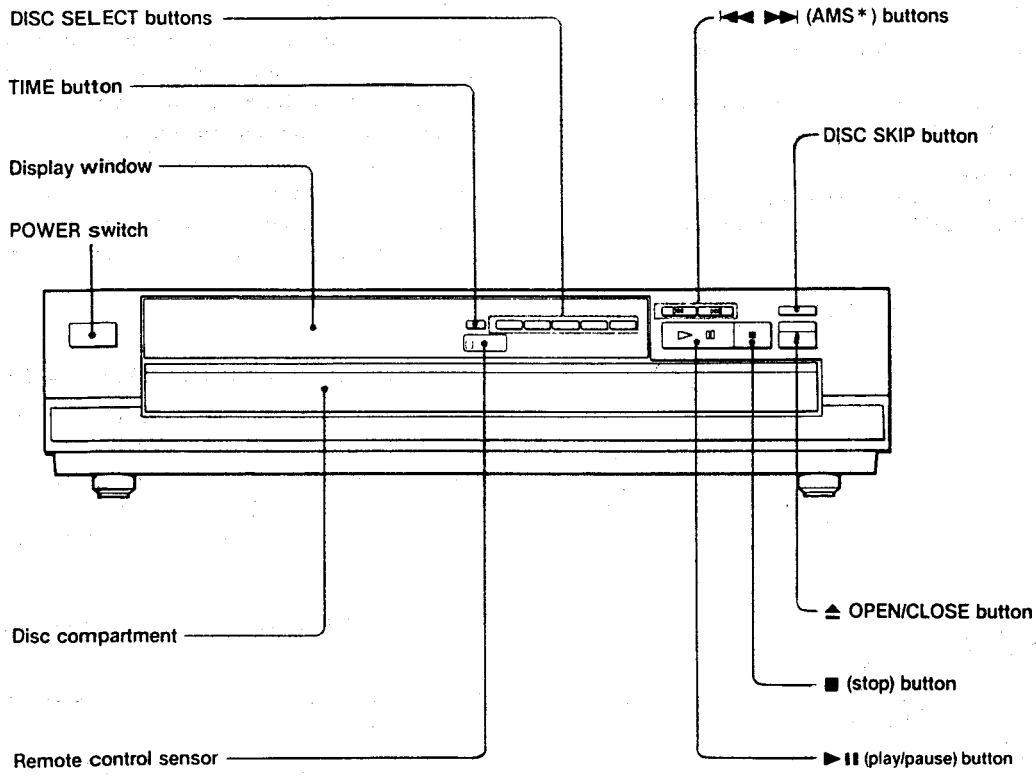


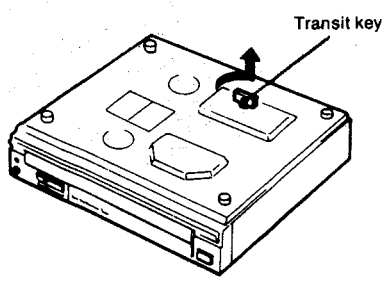
Fig. A

1-2. LOCATION AND FUNCTION OF CONTROLS



* AMS is the abbreviation of Automatic Music Sensor.

Note on the Transit Key



The white transit key on the bottom exterior of the unit protects the optical system against shock during transportation. Before operating the CD player, be sure to remove the key by following the instructions on the label, and store it in a safe place.

When transporting the unit:

1 Turn off the power after the cursor under the disc number in the display window (see page 10) stops blinking.

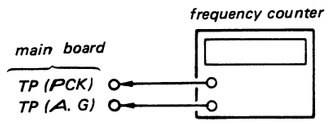
2 Replace the key in its original hole and lock it in place.

SECTION 2
ELECTRICAL ADJUSTMENTS

1. Perform adjustments in the order given.
2. Use YEDS-18 (Part No.: 3-702-101-01) disc unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.

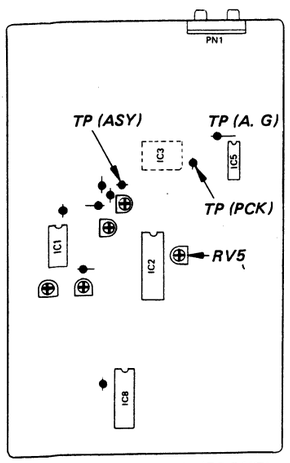
RF PLL Frequency Adjustment/Lock Frequency Check

Procedure:



1. Connect test point TP (ASY) to ground with lead wire.
2. Turn POWER switch on.
3. Connect the frequency counter to test points TP (PCK).
4. Adjust RV5 so that the reading on frequency counter is 4.3218 MHz ±30 kHz.
   ..... (RF PLL frequency adjustment)
5. Remove lead wire connecting TP (ASY) to ground.
6. Put disc (YEDS-18) in and press button.
7. Confirm that the reading on frequency counter is 4.3218 MHz.

Adjustment Location: main board

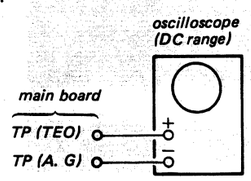


COMPONENT SIDE (FRONT)

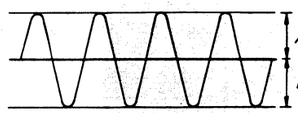
E-F Balance Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

Procedure:

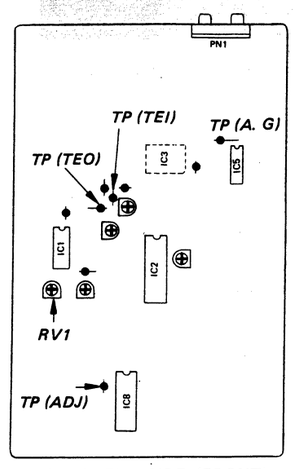


1. Connect test point TP (ADJ) and test point TP (TEI) to ground with lead wire.
2. Connect oscilloscope to test point TP (TEO).
3. Turn POWER switch on.
4. Put disc (YEDS-18) in and press button.
5. Adjust RV1 so that the traverse waveform is symmetrical above and below.
6. After adjustment, remove the lead wire connected in step 5.



VOLT/DIV: 1 V
TIME/DIV: 1 ms

Adjustment Location: main board

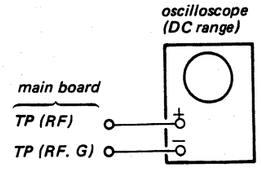


COMPONENT SIDE (FRONT)

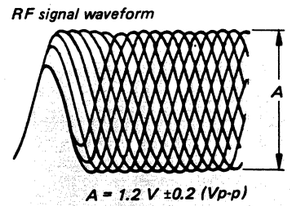
Focus Bias Adjustment

This adjustment should be made when replacing TOP (T-type Optical Pick-up).

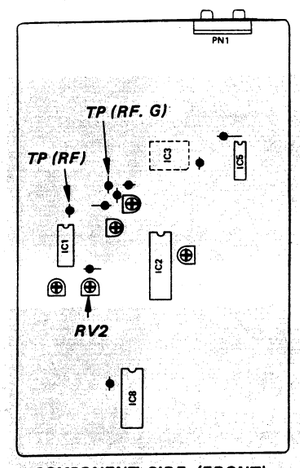
Procedure:



1. Connect oscilloscope to test points TP (RF) and test point TP (RF. G).
2. Turn POWER switch on.
3. Put disc (YEDS-18) in and press ▷ button.
4. Adjust RV2 for an optimum waveform eye pattern or so that the peak is maximum. Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.



Adjustment Location: main board



COMPONENT SIDE (FRONT)

REFERENCE

Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

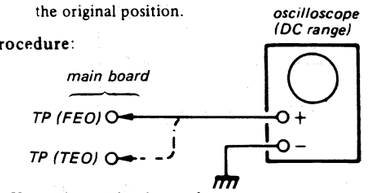
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮ ⏭ buttons pressed.) (Normally takes about 1 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP→▷PLAY or automatic selection.(⏮ ⏭ buttons pressed.)	–	low
• Disc table opens shortly after STOP→▷PLAY.	low or high	–
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

– Primary Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the primary adjustment are only a little different, return the controls to the original position.

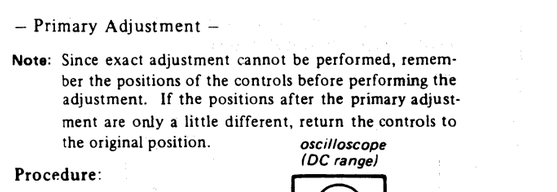
Procedure:



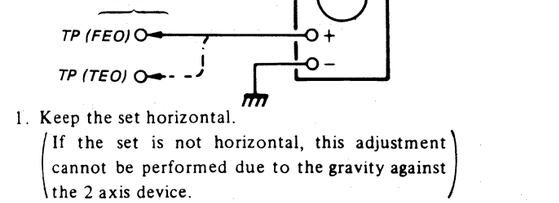
1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18: Fifth Selection) and press ▷ PLAY button.
3. Connect oscilloscope to main amp board TP (FEO).
4. Adjust RV3 so that the waveform is as shown in the figure below. (focus gain adjustment)

- Incorrent Examples (DC level changes more than on adjusted waveform)

low focus gain



high focus gain

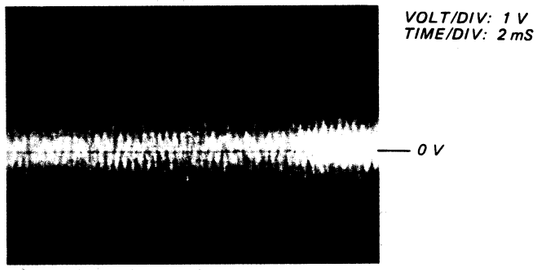


5. Connect oscilloscope to main board TP (TEO).
6. Adjust RV4 so that the waveform is as shown in the figure below. (tracking gain adjustment)

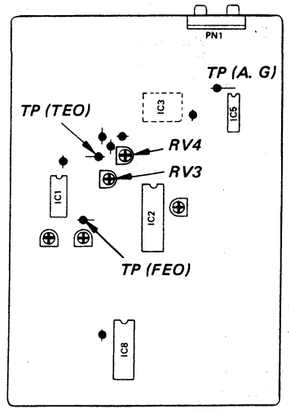
- Incorrect Examples (fundamental wave appears)

low tracking gain

high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location: main board

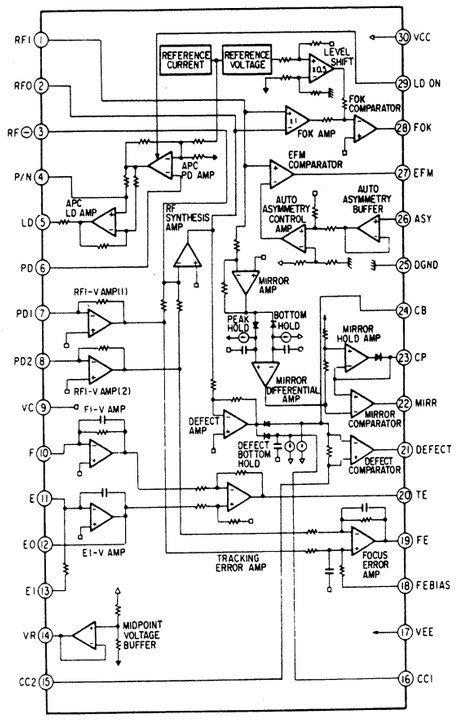


COMPONENT SIDE (FRONT)

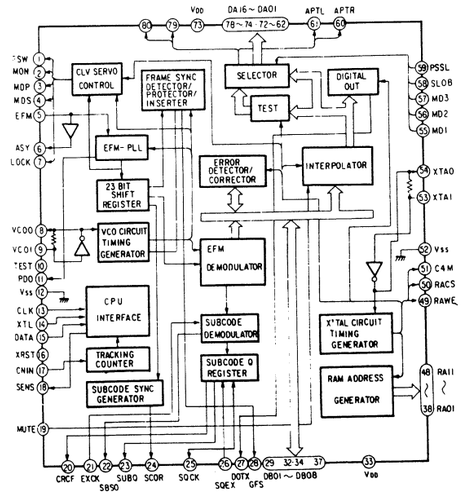
SECTION 3
DIAGRAMS

3-1. IC BLOCK DIAGRAMS

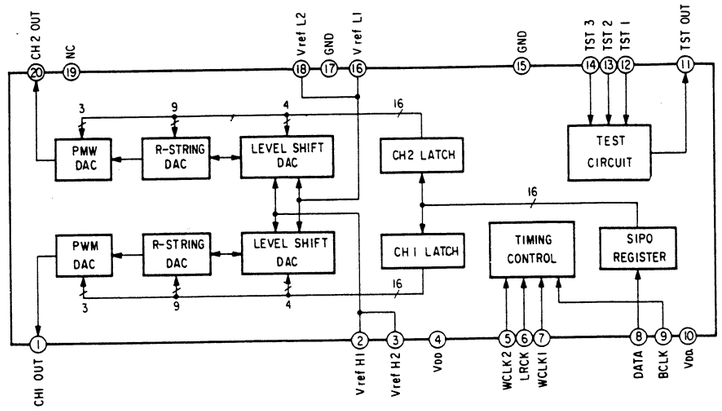
IC1 CXA1081S



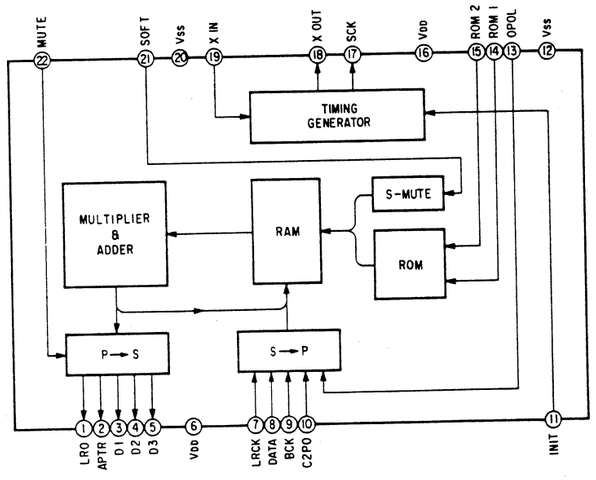
IC3 CXD1125Q



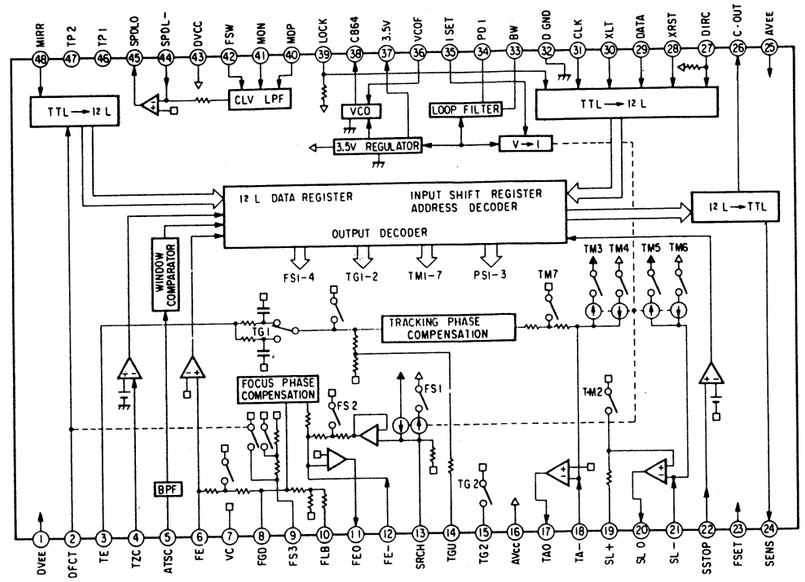
IC5 CXD1161P-2



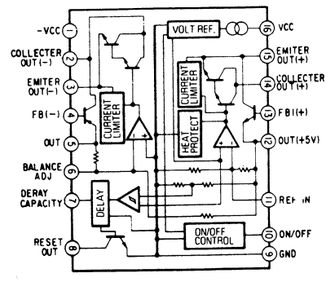
IC4 CXD1162P



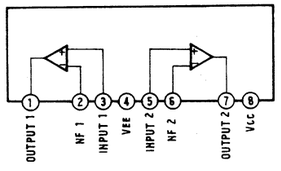
IC2 CXA1182S



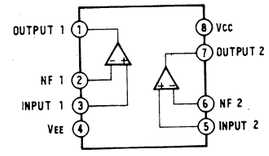
IC9 M5290-16



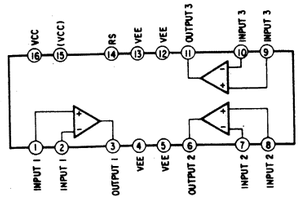
IC6, 7 M5218L

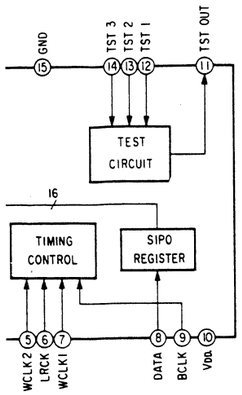


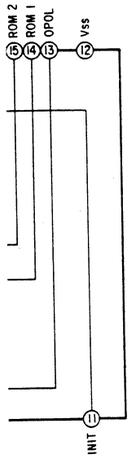
IC201 μPC4558C



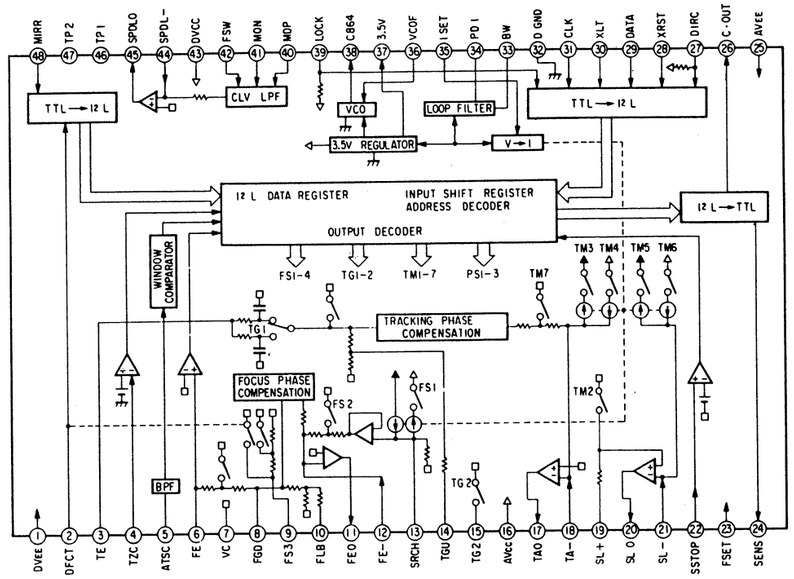
IC11, 12 LA6520



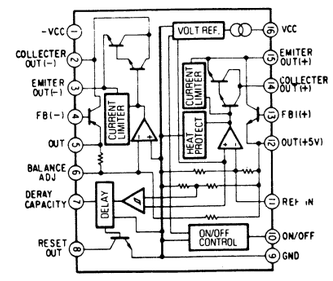




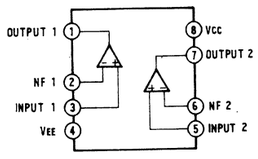
IC2 CXA1182S



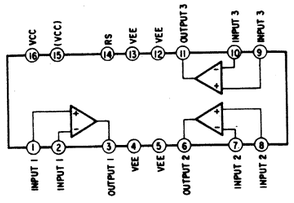
IC9 M5290-16



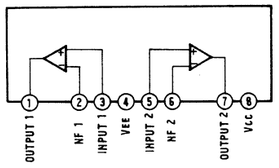
IC201 μPC4558C



IC11, 12 LA6520

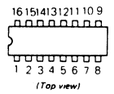


IC6, 7 M5218L

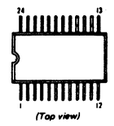


3-2. SEMICONDUCTOR LEAD LAYOUTS

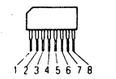
CX23042-10
M5290P-16



CXK5816M-10L

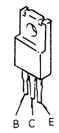


M5218L

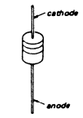


BA1A4M
BN1L4M
2SA1346-TP
2SC3399
2SC3400

2SB1375

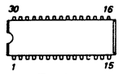


RD4.7ES
RD5.6ES
US1060M

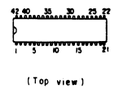


μPC4558C

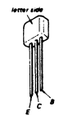
CXA1081S



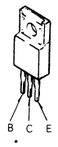
HD614128SA61
MSM6408-26SS
MSM6408-32SS



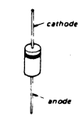
2SA1175
2SC3623



2SD2012



10E2N



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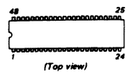
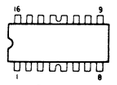
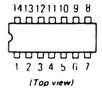


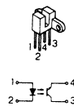
LA6520



μPD4001BC
μPD4011BC
μPD4069BC

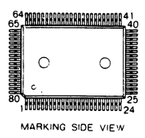


GP1A521

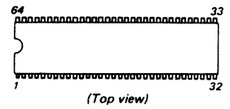


SRA-989A-1

CXD1125Q



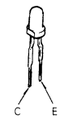
M50547-C5L



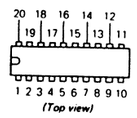
2SB731

2SB1013

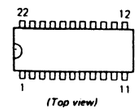
PT360FS



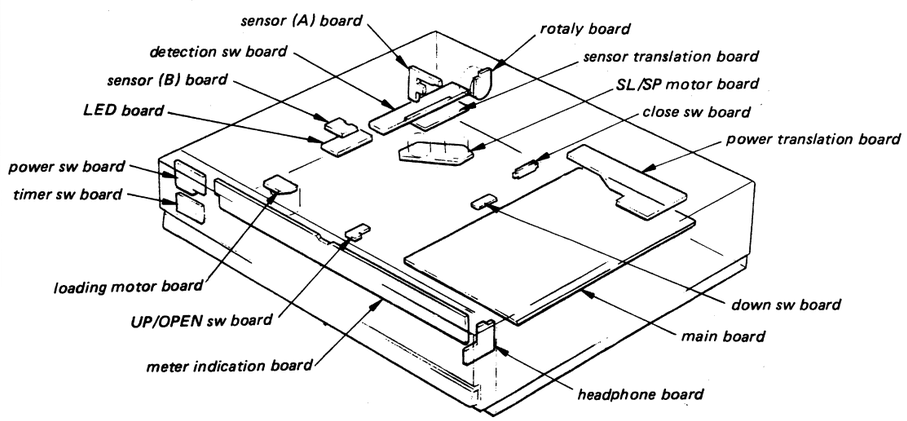
CXD1161P-2



CXD1162P



- **Circuit Boards Location**

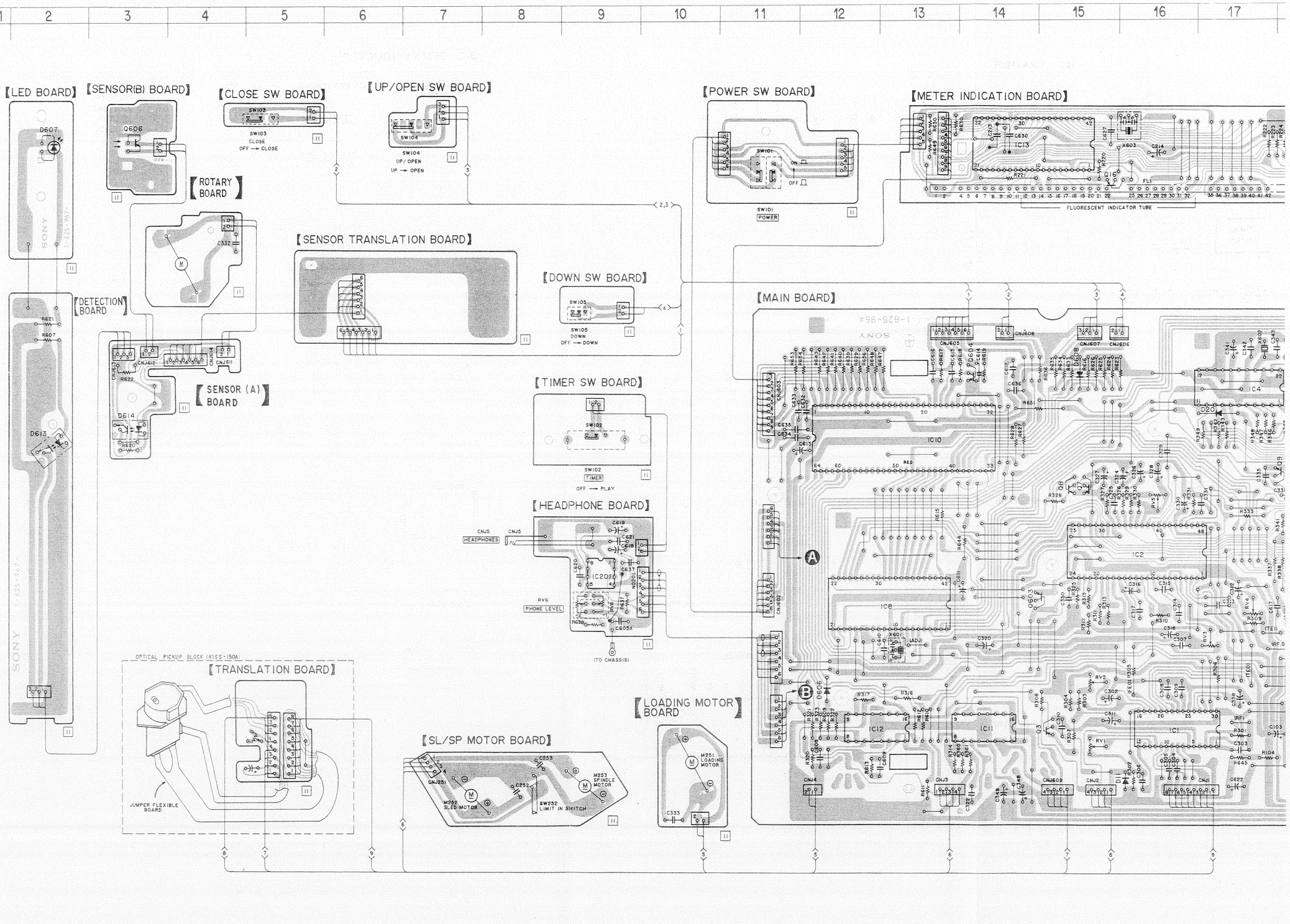


3-3. PRINTED WIRING BOARDS

• See page 11 for Semiconductor Lead Layouts and Circuit Boards Location.
• See page 18 for notes.

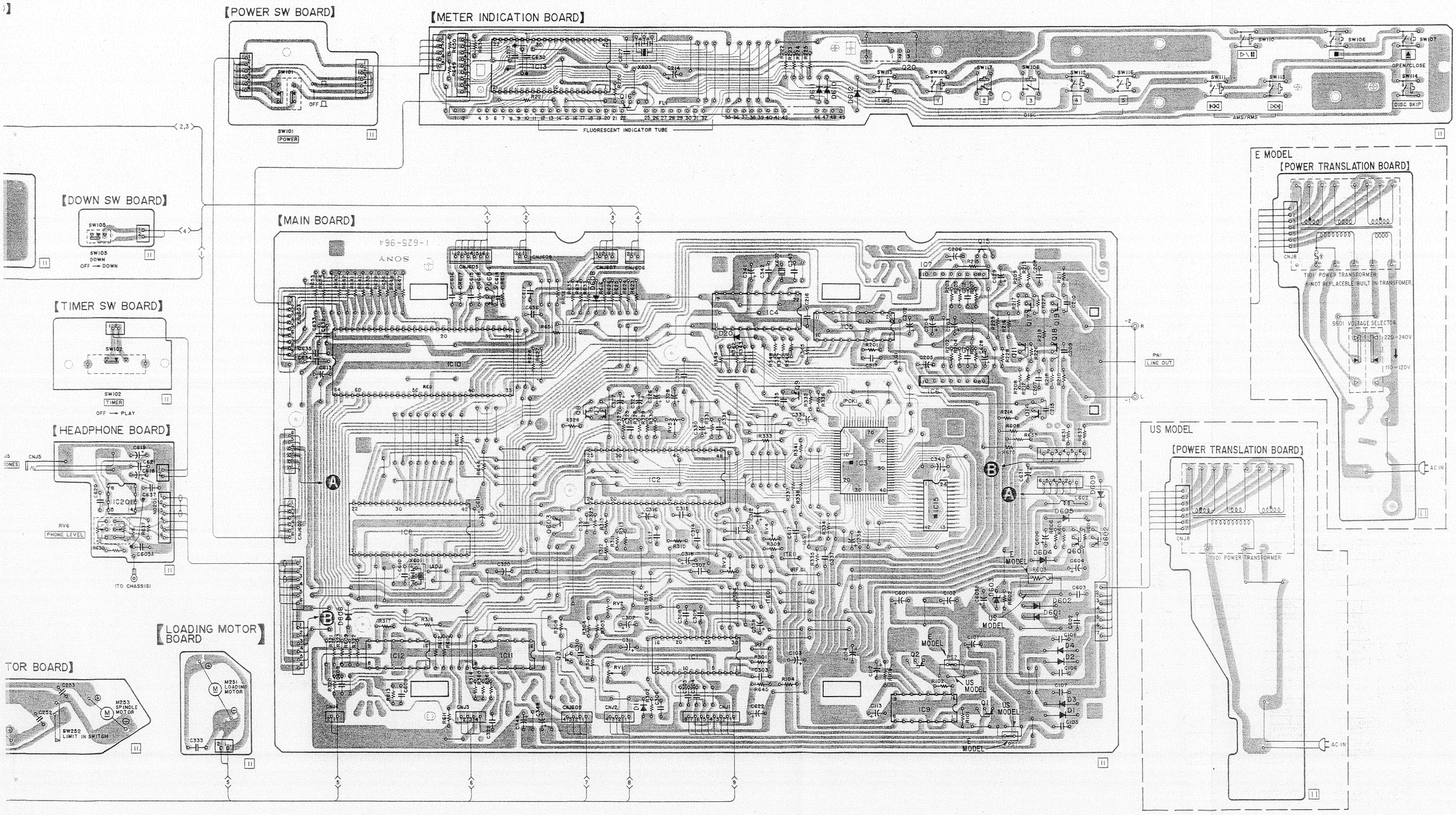
• **Semiconductor Location**

Ref. No.	Location
D1	J-21
D2	I-21
D3	J-21
D4	I-21
D11	J-16
D20	E-17
D601	H-21
D602	I-21
D603	H-20
D604	H-21
D605	G-21
D606	I-12
D607	B-2
D608	E-15
D609	G-21
D610	B-18
D611	B-18
D612	B-18
D613	E-2
D614	E-3
IC1	I-16
IC2	G-16
IC3	G-18
IC4	E-17
IC5	E-18
IC6	F-19
IC7	D-19
IC8	G-13
IC9	J-19
IC10	E-13
IC11	I-14
IC12	I-12
IC13	B-14
IC15	G-19
IC201	G-9
Q1	J-20
Q2	I-19
Q3	I-15
Q7	F-15
Q8	F-15
Q9	F-17
Q11	E-20
Q14	F-20
Q15	D-20
Q16	B-15
Q17	E-20
Q18	E-21
Q19	E-21
Q20	B-19
Q601	H-21
Q602	H-21
Q603	G-14
Q604	E-14
Q606	B-3



ards Location.

8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25



【METER INDICATION BOARD】

FL 1 FLUORESCENT INDICATOR TUBE

REPEAT MODE TRACK INDEX/STEP MIN SEC

SHUFFLE PGM ALL1 DISCS

SW106 - SW117 : PUSH SWITCH

D610 - D612 US1060M-TP

Q16 BA1F4M +5V SWITCH

Q20 BP-1U52 Q20 GP-1U52 REMOTE SENSOR

IC11 LA6520P FOCUS/TRACKING COIL SLED MOTOR DRIVE

IC12 1/3, 2/3 LA6520P LOADING/SPINDLE MOTOR DRIVE

IC13 HD61412BSA61 DISPLAY CONTROL

RV4 TRACKING GAIN

PLAY: APPROX. 600m Vp-p

【POWER SW BOARD】

【LOADING MOTOR BOARD】

【SL/ MOT BOA

M251 LOADING MOTOR

M253 SPINDLE MOTOR

S252 LIMIT IN SW

【SENSOR (A) BOARD】

【SENSOR TRANSLATION BOARD】

【ROTARY BOARD】

M601 ROTARY MOTOR

【SENSOR (B) BOARD】

【DETECTION SW BOARD】

【LED BOARD】

PULS COUNT

D614 GP1A52L

D607 SLR9B9

Q606 PT360FS

D613 GP1A52

TURN TABLE

IC12 3/3 LA6520P ROTARY MOTOR DRIVE

Q603 BA1A4M-TP LIMIT IN SWITCH

IC10 MS0747E Q604 BA1L4M SWITCH

DISK TABLE
OPEN : 4.2
CLOSE: 0

OPEN : 0
CLOSE: 4.2

TIMER OFF : 4.5
TIMER PLAY: 0

IC10 M5074E-C5L MAIN CONTROL

IC8 MSM6408-26SS(US MODEL) -32SS(E MODEL) MECHA CONTROL

【CLOSE SW BOARD】 SW103 CLOSE

【UP/OPEN SW BOARD】 SW104 UP OPEN

【DOWN SW BOARD】 SW105 DOWN

250nSEC 6Vp-p

100nSEC

250nSEC 3Vp-p

【SL/SP MOTOR BOARD】

【MAIN BOARD】

OPTICAL PICK UP BLOCK (KSS-150A)

TRACKING COIL
FOCUS COIL
LASER DIODE
DETECTOR

S252 LIMIT IN SW
M253 SPINDLE MOTOR
M252 SLED MOTOR

C332 0.022
C253 0.0022
C252 0.0022

CNJ25
CNJ3 PH-L
CNJ609
CNJ2 PH-L (RED)
CNJ1 PH-L

LM LG LIMIT SPDL SG SD FD TG TD FG VR PD GC LC F E G D C B A

PLAY:
0.4V
1 Vp-p

-25V
+5V
-5V

L602 470μH
C631 100/6.3

C349 47μ 16V
RV2 FOCUS BIAS
RV1 (REG)
E-F BALANCE
C305 15p
(RF)
C348 47μ 16V

IC1
CXA1081S
RF AMP/SIGNAL PROCESSOR/ LASER ON CIRCUIT

R302 22k
R301 24k
C303 2200p
C304 15p
C306 0.033μ
C308 0.033μ
C309 0.01μ
R303 15k
R304 15k
RV2 47k
RV3 22k
RV4 22k
C302 47μ 16V
R305 4.7k
C307 4700p
C312 47μ 16V
C337 10000p
R334 10k
C338 0.47μ 50V
R335 100k

FOCUS GAIN
RV3

(TEI)
(TEO)
(FEO)
(ASY)

IC2
CXA1182S
FOCUS/ TRACKING/ SLED SERVO

PLAY:
CV
APPROX. 300m Vp-p

RV5
RF PLL FREQUENCY

Q7 BA1A4M-TP
Q8 BA1L4M-TP
PLL SWITING

C327 50V
R328 10k
C324 1μ 50V
C330 47 16

IC15
LC9600R-145
16 BIT RAM

C339 47μ 16V
C340 47μ 16V
C216 22000p

60nSEC
4V
1.2V

100nSEC
1V
0.7V

PLAY :
5V
0V
135μSEC

PLAY :
550μSEC
5V
2.5V

100nSEC
4.8V
4.3V

12μSEC
5V
0V

IC3
CXD1125Q
DIGITAL SIGNAL PROCESSOR/ CLV SERVO

IC4
CXD1162P
DIGITAL FILTER

60nSEC
4.5V
0.3V

60nSEC
4V
0.7V

Q9
BA1L4W-TP
MUTING SWITCH

Q14 BN1L4M-TP
MUTING DRIVE

Q15 BN1L4M-TP
EMPHASIS SWITCH

IC5
CXD1161P
CXD116P-1
D/A CONVERTER

Q3 2SB1013TP-3
LASER DRIVE

R307 22
C311 47μ 16V
C310 2200p
D1 US1060M-TP
R308 100

IC9
M5290P-16
±5V REG

Q1
2SD2012
-5V REG

R109 2.2

Q1 US MODEL
2SD2012
R101 4.7k
E MODEL
Q2 2SB1375
R102 4.7k
C112 10μ 50V
C113 10μ 50V
R104 3.9k

Q2 2SB1375 US MODEL
+5V REG

R602 15k
D604 US1060M
R605 1k
D603 RD4.7ES
C605B 47μ 50V
Q601 2SA1175
R606 6.2k
C606 100μ 35
R604
C604 220μ 50V
D605 1OE-2
Q602 2SB731-25
R603 1Ω
E MODEL
D401 1OE-2
C602 0.1μ
D602 1OE-2
C603 0.1μ

Q601 2SA1175-E
Q602 2SB731-E
-25V REG 1.2k(E MODEL)
3.9k(US MODEL)

(A.G)

D609 RD5.6ES-T2B2
D609 7.5V
AC3.5
AC6
AC27
T101 POWER TRANSFORMER
CNJ8

D1 1OE-2
D2 1OE-2
D3 1OE-2
D4 1OE-2
C105 0.1μ
C106 0.1μ
C107 0.1μ
C108 0.1μ
C101 2200μ 16V
C102 2200μ 16V
C601 2200μ 16V

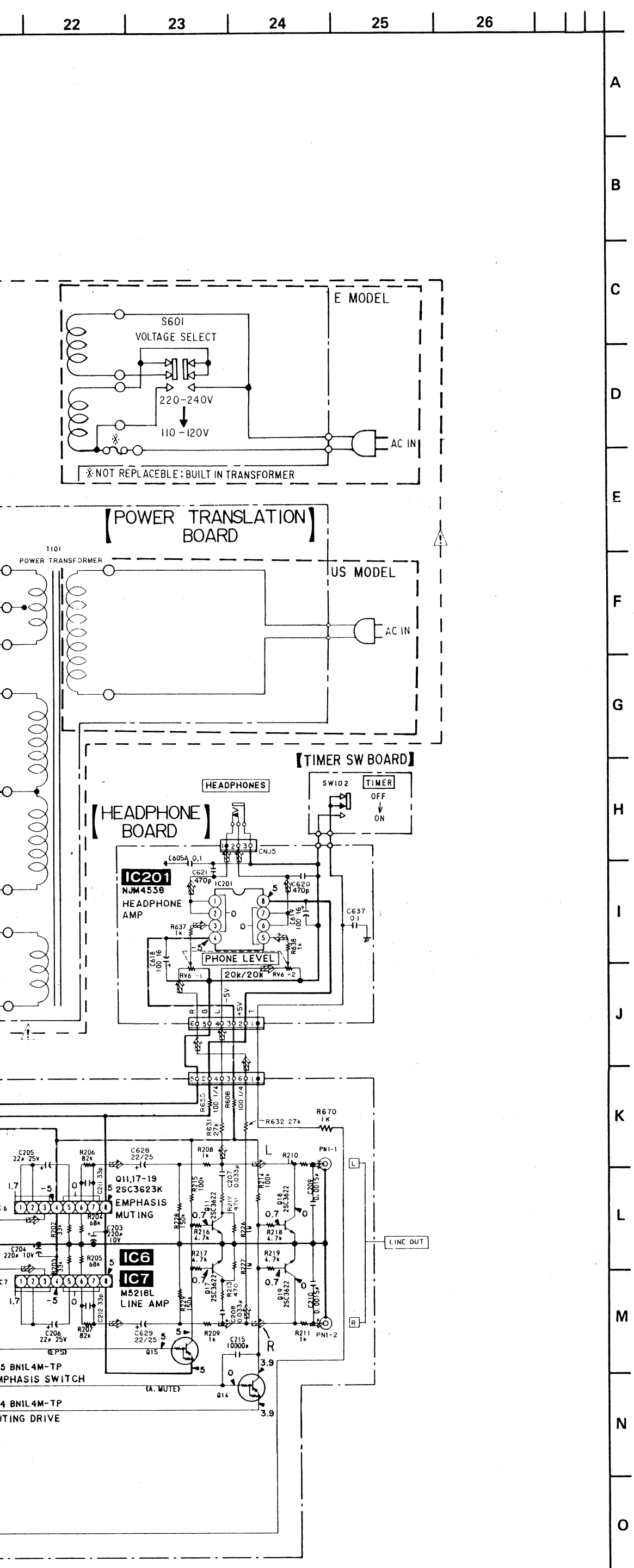
C217 22000p
R201 1k
C202 220μ 10V
C205 22μ 25V
C206 22μ 25V
R206 82k
R204 68k
R205 68k
R207 82k
C211 33p
C212 33p
C203 220μ 10V
C204 220μ 10V
R202 33k
R203 33k
IC6
IC7

R348 1k
R347 1k
R346 1k
R345 1k
R349 330
X601 16MHz
C341 47μ 16V
C342 15p
C343 15p

D120 US1060M-TP

(EPS)

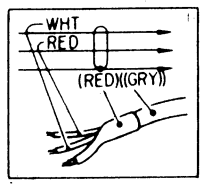
C350 10000p
R325 510k
C317 0.1μ
C316 3.3μ 50V
C315 0.033μ
C314 0.1μ
C313 2200p
R309 4.7k
C335 0.033μ
C336 0.47μ 50V
R332 1M
R333 27k
R338 100k
R337 100k
R341 10k
C617 22000p
R322 110k
R360 3.9k
R361 4.7k
R311 270k
R312 33k
C320 10μ 50V
R313 82k
R310 130k
R316 47k
R317 33k
C322 0.22μ
C321 56p
C318 47μ 16V
R343 1k
R342 1k
C329 2200p
C328 47μ 16V
R327 22k
R326 560
C326 4.7μ 50V
R329 100k
R330 3.6k
RV5 1k
C325 4700p
R331 100k
C331 100p
C327 50V
R328 10k
C324 1μ 50V
C330 47 16
C322 0.22μ
C321 56p
R322 110k
R360 3.9k
R361 4.7k
R311 270k
R312 33k
C320 10μ 50V
R313 82k
R310 130k
R316 47k
R317 33k
C318 47μ 16V
C322 0.22μ
C321 56p
R322 110k
R360 3.9k
R361 4.7k
R311 270k
R312 33k
C320 10μ 50V
R313 82k
R310 130k
R316 47k
R317 33k
C318 47μ 16V



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note on Printed Wiring Boards:

- Color code or sleeving over the end of the jacket.



- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- Components for right channel have same values as for left channel. Reference numbers are coded from
- △ : internal component.
- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : STOP mode
- Voltages are taken with a VOM (50 kΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : CD

- Switch

Ref. No.	Switch	Position
SW101	POWER	OFF
SW102	TIMER	OFF
SW103	CLOSE	OFF
SW104	UP/OPEN	UP
SW105	DOWN	OFF
SW106	KEY MARTIX	OFF
|		
SW117		
SW252	LIMIT IN	OFF
VS101	VOLTAGE SELECTOR	220 110 ↔ 240 120

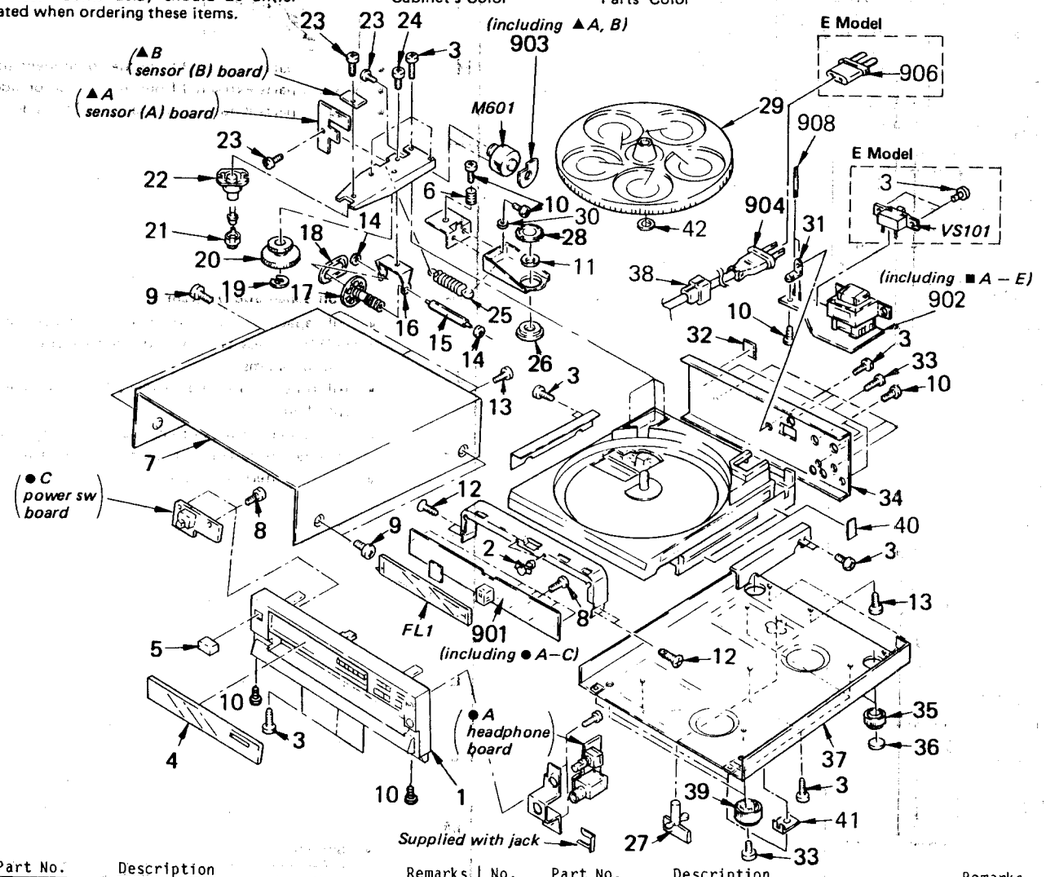
SECTION 4
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts Color

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

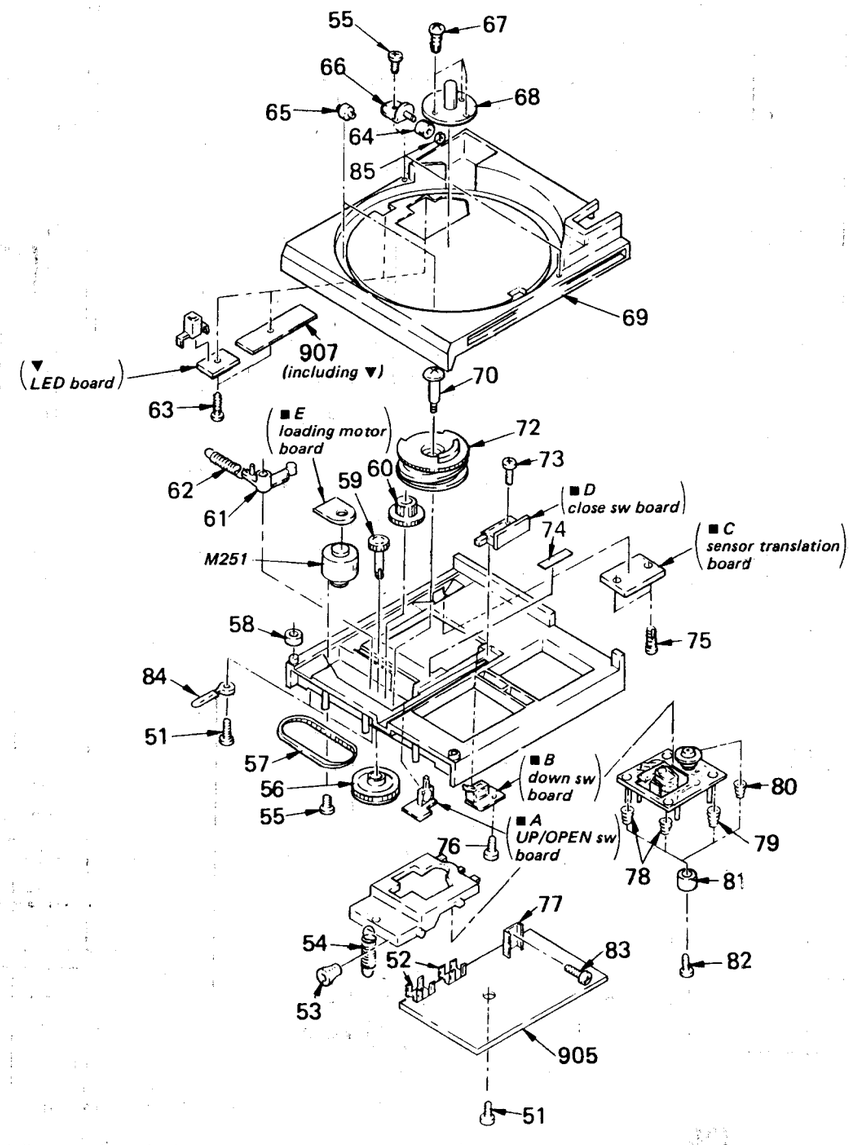
(1)



No.	Part No.	Description	Remarks
1	X-4924-413-1	PANEL ASSY, FRONT	
2	*4-837-107-00	(E).....SPACER	
3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
4	4-924-440-11	PLATE (B), INDICATION	
5	4-922-921-01	BUTTON (POWER)	
6	4-924-477-01	SPRING, COMPRESSION	
7	4-924-442-01	CASE (F)	
8	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
9	3-704-366-21	SCREW (CASE) (M3X10)	
10	7-685-870-09	SCREW +BVTT 3X5 (S)	
11	*4-925-569-01	SHEET (FULCTION)	
12	7-685-248-19	SCREW +KTP 3X12 TYPE2 NON-SLIT	
13	3-703-685-21	SCREW (+BV 3X8)	
14	3-669-465-00	WASHER (1.5), STOPPER	
15	4-924-420-01	SHAFT (W)	
16	*4-924-424-01	BRACKET (WORM)	
17	4-924-419-01	PULLEY (WORM)	
18	4-917-548-01	BELT, DRIVING	
19	7-624-106-04	STOP RING 3.0, TYPE -E	
20	4-924-414-01	GEAR (WH)	
21	*4-924-408-01	HOLDER (B), LED	
22	*4-924-409-01	HOLDER (A), LED	
23	7-621-259-15	SCREW +P 2.6X3	
24	7-682-548-09	SCREW +B 3X8	
25	4-924-421-01	SPRING (C), TENSION	
26	1-452-340-11	MAGNET	
27	*4-924-418-01	PLATE (TRANSPORT), LOCK	
28	*4-924-422-01	DAMPER	
29	*4-924-405-01	TABLE (B), DISK	
30	7-688-003-01	W3, SMALL	
31	*4-923-506-01	BRACKET (PC BOARD)	
32	*3-704-217-01	LABEL	
33	7-682-147-01	SCREW +BVTT 3X6 (S)	
34	*4-924-401-31	PANEL (FL), BACK	
35	X-4922-508-1	FOOT ASSY	
36	4-922-942-01	FOOT (FELT)	
37	*4-924-441-01	PLATE (FL), BOTTOM	
38	*3-703-244-00	(US).....BUSHING (2104), CORD	
38	3-703-571-11	(E).....BUSHING (S) (4516), CORD	
39	X-4922-001-1	FOOT ASSY	
40	3-831-441-XX	CUSHION (B), CABINET	
41	*4-924-467-01	(E).....PLATE, GROUND	
42	4-926-307-01	WASHER	
901	*1-625-966-11	PC BOARD, METER INDICATION	
902	*1-625-965-11	PC BOARD, POWER TRANSLATION	
903	*1-626-040-11	PC BOARD, ROTARY	
904	⚠1-551-478-00	(US).....CORD, POWER (POLAR.SPT-2)	
904	⚠1-551-188-XX	(E).....CORD, POWER	
906	⚠1-526-565-00	(E).....AC PLUG ADAPTOR	
908	1-535-416-11	(US).....TERMINAL	
908	*1-535-688-11	(E).....TERMINAL	
VS101	⚠1-571-309-11	(E).....VOLTAGE SELECTOR	

(2)

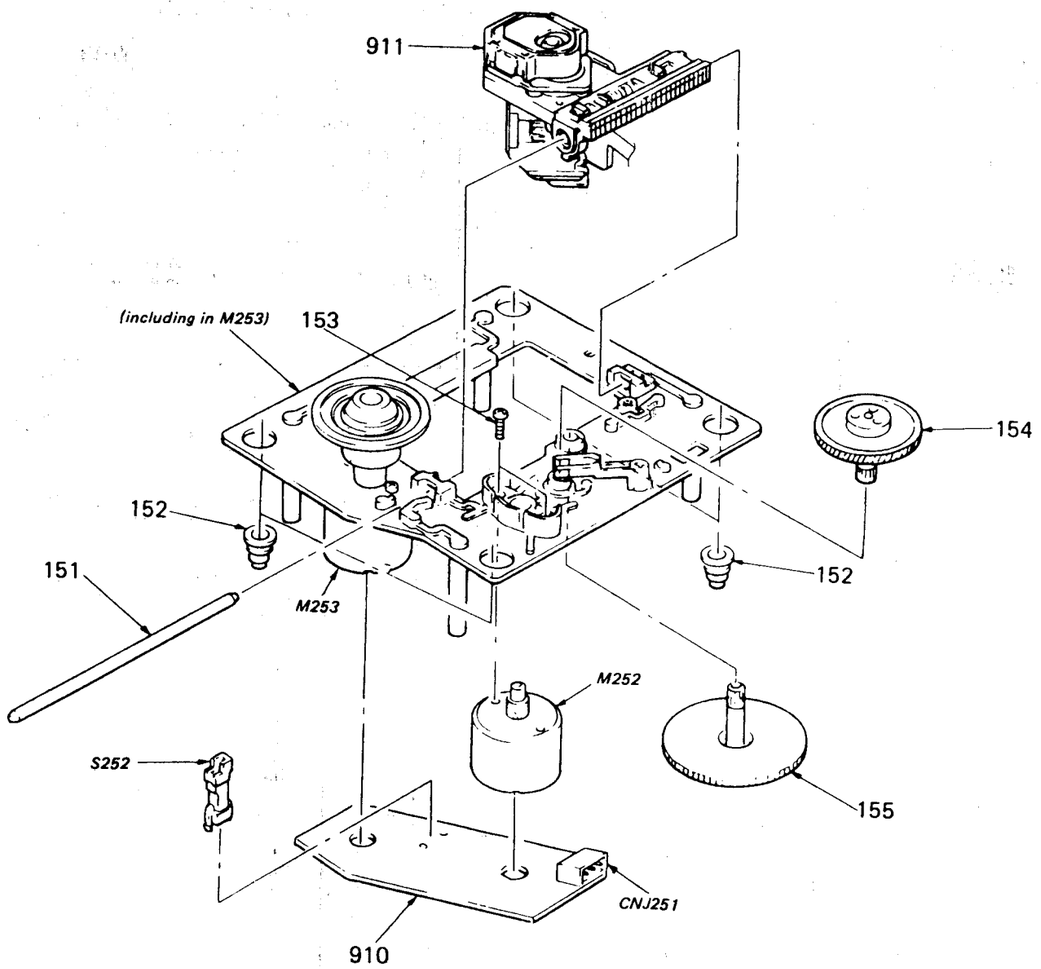
(3)



No.	Part No.	Description	Remarks
51	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
52	*4-922-525-01	HEAT SINK	
53	4-917-515-01	ROLLER	
54	4-924-411-01	SPRING (A), TENSION	
55	7-621-759-30	+PSW, 2.6X5	
56	4-924-474-01	PULLEY (LOADING)	
57	4-924-478-01	BELT (TIMING)	
58	*3-576-990-01	CUSHION	
59	4-924-425-01	GEAR (LOADING B)	
60	4-924-426-01	GEAR (LOADING C)	
61	4-917-519-01	LEVER, SET	
62	4-924-412-01	SPRING (B), TENSION	
63	7-687-604-19	SCREW, TOTSU BTP 2.6X8 TYPE2	
64	*X-4924-408-1	COLLAR (ROLLER) ASSY	
65	*X-4924-409-1	SHAFT (ROLLER B) ASSY	
66	*X-4924-410-1	BRACKET (ROLLER) ASSY	
67	7-685-247-19	SCREW +KTP 3X10 TYPE2 NON-SLIT	
68	*X-4924-402-1	BRACKET (A) ASSY	
69	4-924-406-01	TABLE (A), DISK	
70	7-685-666-79	SCREW. STEP	
72	4-924-431-01	GEAR (LOADING A)	
73	7-685-137-19	SCREW +P 2.6X14 TYPE2 NON-SLIT	
74	*4-926-316-01	SHEET	
75	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S	
76	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
77	*4-875-327-01	HEAT SINK	
78	4-917-507-01	SPRING (H)	
79	4-917-541-01	SPRING (B)	
80	4-918-669-01	SPRING (W)	
81	4-917-508-01	HOLDER, SP	
82	7-685-135-19	SCREW +P 2.6X10 TYPE2 NON-SLIT	
83	7-682-147-01	SCREW +BVTT 3X6 (S)	
84	3-703-150-11	CLAMP	
85	3-325-290-21	WASHER, STOPPER	
905	*A-4651-192-A	(US).....MOUNTED PCB, MAIN	
905	*A-4651-208-A	(E).....MOUNTED PCB, MAIN	
907	*1-625-967-11	PC BOARD, DETECTION SWITCH	
M251	A-4608-350-A	MOTOR ASSY, LOADING	

No.	Pa
151	4-
152	4-
153	7-
154	4-
155	4-

(3) OPTICAL PICK-UP BLOCK (BU-5C)



No.	Part No.	Description	Remarks
151	4-917-565-01	SHAFT, SLED	
152	4-917-562-01	INSULATOR	
153	7-621-255-15	SCREW +P 2X3	
154	4-917-567-01	GEAR (M)	
155	4-917-564-01	GEAR (P), FLATNESS	

No.	Part No.	Description	Remarks
910	*1-624-322-11	PC BOARD, SL/SP MOTOR	
911	⚠8-848-062-01	DEVICE,OPTICS (KSS-150A)	
CNJ251	*1-564-720-21	PIN, CONNECTOR (SMALL TYPE) 4P	
M252	X-4917-504-1	ASSY, MOTOR (SLED)	
M253	X-4917-523-1	ASSY, MOTOR (SPINDLE)	
S252	1-571-274-11	SWITCH, LEAF (LIMIT IN)	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description			
901	*1-625-966-11	PC BOARD, METER INDICATION			
902	*1-625-965-11	PC BOARD, POWER TRANSLATION			
903	*1-626-040-11	PC BOARD, ROTARY			
904	⚠1-551-188-XX	(E).....CORD, POWER			
904	⚠1-551-478-00	CORD, POWER (POLAR.SPT-2)			
905	*A-4651-196-A	(US).....MOUNTED PCB, MAIN			
905	*A-4651-208-A	(E).....MOUNTED PCB, MAIN			
906	⚠1-526-565-00	(E).....AC PLUG ADAPTOR			
907	*1-625-967-11	PC BOARD, DETECTION SWITCH			
908	1-535-416-11	(US).....TERMINAL			
908	*1-535-688-11	(E).....TERMINAL			
910	*1-626-304-11	PC BOARD, SL/SP MOTOR			
911	⚠8-848-062-01	PICKUP, OPTICS KSS-150A			
C101	1-124-556-11	ELECT	2200MF	20%	16V
C102	1-124-556-11	ELECT	2200MF	20%	16V
C103	1-124-444-00	ELECT	220MF	20%	10V
C104	1-124-444-00	ELECT	220MF	20%	10V
C105	1-136-165-00	FILM	0.1MF	5%	50V
C106	1-136-165-00	FILM	0.1MF	5%	50V
C107	1-136-165-00	FILM	0.1MF	5%	50V
C108	1-136-165-00	FILM	0.1MF	5%	50V
C112	1-123-875-11	ELECT	10MF	20%	50V
C113	1-123-875-11	ELECT	10MF	20%	50V
C202	1-124-444-00	ELECT	220MF	20%	10V
C203	1-124-444-00	ELECT	220MF	20%	10V
C204	1-124-444-00	ELECT	220MF	20%	10V
C205	1-124-908-11	ELECT	22MF	20%	25V
C206	1-124-908-11	ELECT	22MF	20%	25V
C207	1-136-159-00	FILM	0.033MF	5%	50V
C208	1-136-159-00	FILM	0.033MF	5%	50V
C209	1-106-347-00	MYLAR	0.0015MF	5%	50V
C210	1-106-347-00	MYLAR	0.0015MF	5%	50V
C211	1-162-211-31	CERAMIC	33PF	5%	50V
C212	1-162-211-31	CERAMIC	33PF	5%	50V
C213	1-161-494-00	CERAMIC	0.022MF		25V
C214	1-124-443-00	ELECT	100MF	20%	6.3V
C215	1-161-379-00	CERAMIC	0.01MF	30%	16V
C216	1-161-494-00	CERAMIC	0.022MF		25V
C217	1-161-494-00	CERAMIC	0.022MF		25V
C252	1-106-351-00	MYLAR	0.0022MF	5%	50V
C253	1-106-351-00	MYLAR	0.0022MF	5%	50V
C302	1-124-477-11	ELECT	47MF	20%	16V
C303	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C304	1-162-203-31	CERAMIC	15PF	5%	50V
C305	1-162-203-31	CERAMIC	15PF	5%	50V
C306	1-136-159-00	FILM	0.033MF	5%	50V
C307	1-161-377-00	CERAMIC	0.0047MF	30%	16V
C308	1-136-159-00	FILM	0.033MF	5%	50V
C309	1-136-153-00	FILM	0.01MF	5%	50V

Ref.No.	Part No.	Description			
C310	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C311	1-124-477-11	ELECT	47MF	20%	16V
C312	1-124-477-11	ELECT	47MF	20%	16V
C313	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C314	1-136-165-00	FILM	0.1MF	5%	50V
C315	1-136-159-00	FILM	0.033MF	5%	50V
C316	1-123-382-00	ELECT	3.3MF	20%	50V
C317	1-136-165-00	FILM	0.1MF	5%	50V
C318	1-124-477-11	ELECT	47MF	20%	16V
C320	1-123-875-11	ELECT	10MF	20%	50V
C322	1-136-169-00	FILM	0.22MF	5%	50V
C324	1-124-499-11	ELECT	1MF	20%	50V
C325	1-161-377-00	CERAMIC	0.0047MF	30%	16V
C326	1-124-927-11	ELECT	4.7MF	20%	50V
C327	1-124-499-11	ELECT	1MF	20%	50V
C328	1-124-477-11	ELECT	47MF	20%	16V
C329	1-161-375-00	CERAMIC	0.0022MF	30%	16V
C330	1-124-477-11	ELECT	47MF	20%	16V
C331	1-162-282-31	CERAMIC	100PF	10%	50V
C332	1-161-494-00	CERAMIC	0.022MF		25V
C333	1-161-494-00	CERAMIC	0.022MF		25V
C335	1-136-159-00	FILM	0.033MF	5%	50V
C336	1-124-902-00	ELECT	0.47MF	20%	50V
C337	1-161-379-00	CERAMIC	0.01MF	30%	16V
C338	1-124-902-00	ELECT	0.47MF	20%	50V
C339	1-124-477-11	ELECT	47MF	20%	16V
C340	1-124-477-11	ELECT	47MF	20%	16V
C341	1-124-477-11	ELECT	47MF	20%	16V
C342	1-162-203-31	CERAMIC	15PF	5%	50V
C343	1-162-203-31	CERAMIC	15PF	5%	50V
C348	1-124-477-11	ELECT	47MF	20%	16V
C349	1-124-477-11	ELECT	47MF	20%	16V
C350	1-161-379-00	CERAMIC	0.01MF	30%	16V
C601	1-124-556-11	ELECT	2200MF	20%	16V
C602	1-136-165-00	FILM	0.1MF	5%	50V
C603	1-136-165-00	FILM	0.1MF	5%	50V
C604	1-124-911-11	ELECT	220MF	20%	50V
C605	1-124-910-11	ELECT	47MF	20%	50V
C606	1-124-122-11	ELECT	100MF	20%	35V
C608	1-161-494-00	CERAMIC	0.022MF		25V
C609	1-161-494-00	CERAMIC	0.022MF		25V
C610	1-161-494-00	CERAMIC	0.022MF		25V
C611	1-124-477-11	ELECT	47MF	20%	16V
C612	1-136-153-00	FILM	0.01MF	5%	50V
C613	1-124-477-11	ELECT	47MF	20%	16V

Ref.No.	Part No.	Description			
C614	1-162-290-31	CERAMIC	470PF	10%	50V
C615	1-162-290-31	CERAMIC	470PF	10%	50V
C616	1-162-290-31	CERAMIC	470PF	10%	50V
C617	1-161-494-00	CERAMIC	0.022MF		25V
C622	1-124-477-11	ELECT	47MF	20%	16V
C627	1-162-207-11	CERAMIC	22PF	5%	50V
C628	1-124-908-11	ELECT	22MF	20%	25V
C629	1-124-908-11	ELECT	22MF	20%	25V
C630	1-161-494-00	CERAMIC	0.022MF		25V
C631	1-124-443-00	ELECT	100MF	20%	6.3V
C632	1-161-379-00	CERAMIC	0.01MF	30%	16V
C633	1-161-379-00	CERAMIC	0.01MF	30%	16V
C634	1-162-596-11	CERAMIC	0.022MF		25V
C635	1-162-596-11	CERAMIC	0.022MF		25V
C636	1-136-153-00	FILM	0.01MF	5%	50V
CNJ1	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CNJ2	*1-564-706-31	PIN, CONNECTOR (SMALL TYPE) 4P			
CNJ3	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNJ4	*1-564-336-51	PIN, CONNECTOR 2P			
CNJ8	*1-564-522-11	PLUG, CONNECTOR 7P			
CNJ251	*1-564-720-21	PIN, CONNECTOR (SMALL TYPE) 4P			
CNJ602	*1-564-499-11	PIN, CONNECTOR 6P			
CNJ603	*1-506-615-11	PIN, CONNECTOR 9P			
CNJ605	*1-564-340-51	PIN, CONNECTOR 6P			
CNJ606	*1-564-336-61	PIN, CONNECTOR 2P			
CNJ607	*1-564-337-71	PIN, CONNECTOR 3P			
CNJ608	*1-564-336-81	PIN, CONNECTOR 2P			
CNJ609	*1-564-706-41	PIN, CONNECTOR (SMALL TYPE) 4P			
CNJ611	*1-564-336-51	PIN, CONNECTOR 2P			
CNJ612	*1-564-336-61	PIN, CONNECTOR 2P			
CNJ613	*1-564-337-71	PIN, CONNECTOR 3P			
CNJ614	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P			
D1	⚠8-719-200-77	DIODE 10E2N			
D2	⚠8-719-200-77	DIODE 10E2N			
D3	⚠8-719-200-77	DIODE 10E2N			
D4	⚠8-719-200-77	DIODE 10E2N			
D11	8-719-000-26	DIODE US1060M			
D20	8-719-000-26	DIODE US1060M			
D601	8-719-200-77	DIODE 10E2N			
D602	8-719-200-77	DIODE 10E2N			
D603	8-719-109-81	DIODE RD4.7ES			
D604	8-719-000-26	DIODE US1060M			
D605	8-719-200-77	DIODE 10E2N			
D606	8-719-000-26	DIODE US1060M			
D607	8-719-950-62	DIODE SRA-989A-1			
D608	8-719-000-26	DIODE US1060M			
D609	8-719-109-89	DIODE RD5.6ES-B2			
D610	8-719-000-26	DIODE US1060M			
D611	8-719-000-26	DIODE US1060M			
D612	8-719-000-26	DIODE US1060M			
D613	8-719-970-19	DIODE GP1A521			
D614	8-719-970-19	DIODE GP1A521			
FL1	1-519-451-11	INDICATOR TUBE, FLUORESCENT			
IC1	8-752-031-80	IC CXA1081S			
IC2	8-752-032-33	IC CXA1182S			
IC3	8-759-947-02	IC CXD1125Q			
IC4	8-759-946-62	IC CXD1162P			
IC5	8-759-805-35	IC CXD1161P-2			

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description			
IC6	8-759-600-02	IC M5218L			
IC7	8-759-600-02	IC M5218L			
IC8	8-759-972-49	(E).....IC MSM6408-32SS			
IC8	8-759-971-40	(US).....IC MSM6408-26SS			
IC9	8-759-630-21	IC M5290P-16			
IC10	8-759-630-82	IC M50747-C5L			
IC11	8-759-805-18	IC LA6520			
IC12	8-759-805-18	IC LA6520			
IC13	8-759-320-40	IC HD614128SA61			
IC15	8-752-320-44	IC CXK5816M-10L			
L602	1-408-096-00	INDUCTOR	470UH		
M251	A-4608-350-A	MOTOR ASSY, LOADING			
M252	X-4917-504-1	MOTOR ASSY (SLED)			
M253	X-4917-523-1	MOTOR ASSY (SPINDLE)			
M601	A-4608-351-A	MOTOR ASSY, ROTARY			
PN1	1-566-921-11	JACK, PIN 2P (LINE OUT)			
PS1,PS2	⚠1-532-685-00	(E).....LINK, IC			
Q1	8-729-209-15	TRANSISTOR 2SD2012			
Q2	8-729-209-60	TRANSISTOR 2SB1375			
Q3	8-729-801-83	TRANSISTOR 2SB1013			
Q7	8-729-115-79	TRANSISTOR BA1A4M			
Q8	8-729-806-38	TRANSISTOR 2SC3399			
Q9	8-729-806-38	TRANSISTOR 2SC3399			
Q11	8-729-107-77	TRANSISTOR 2SC3623			
Q14	8-729-115-12	TRANSISTOR BN1L4M			
Q15	8-729-115-12	TRANSISTOR BN1L4M			
Q16	8-729-806-34	TRANSISTOR 2SC3400			
Q17	8-729-107-77	TRANSISTOR 2SC3623			
Q18	8-729-107-77	TRANSISTOR 2SC3623			
Q19	8-729-107-77	TRANSISTOR 2SC3623			
Q20	8-749-920-03	IC GP1U52			
Q601	8-729-117-54	TRANSISTOR 2SA1175			
Q602	8-729-173-13	TRANSISTOR 2SB731			
Q603	8-729-115-79	TRANSISTOR BA1A4M			
Q604	8-729-806-38	TRANSISTOR 2SC3399			
Q606	8-729-904-10	TRANSISTOR PT360FS			
R101	1-249-425-11	CARBON	4.7K	5%	1/4W
R102	1-249-425-11	CARBON	4.7K	5%	1/4W
R104	1-249-424-11	CARBON	3.9K	5%	1/4W
R109	1-249-385-11	CARBON	2.2	5%	1/4W
R201	1-249-417-11	CARBON	1K	5%	1/4W
R202	1-249-435-11	CARBON	33K	5%	1/4W
R203	1-249-435-11	CARBON	33K	5%	1/4W
R204	1-249-439-11	CARBON	68K	5%	1/4W
R205	1-249-439-11	CARBON	68K	5%	1/4W
R206	1-249-440-11	CARBON	82K	5%	1/4W
R207	1-249-440-11	CARBON	82K	5%	1/4W
R208	1-249-417-11	CARBON	1K	5%	1/4W
R209	1-249-417-11	CARBON	1K	5%	1/4W
R210	1-249-417-11	CARBON	1K	5%	1/4W
R211	1-249-417-11	CARBON	1K	5%	1/4W
R212	1-249-413-11	CARBON	470	5%	1/4W
R213	1-249-413-11	CARBON	470	5%	1/4W
R214	1-249-441-11	CARBON	100K	5%	1/4W
R215	1-249-441-11	CARBON	100K	5%	1/4W
R216	1-249-425-11	CARBON	4.7K	5%	1/4W
R217	1-249-425-11	CARBON	4.7K	5%	1/4W
R218	1-249-425-11	CARBON	4.7K	5%	1/4W

Ref.No.	Part No.	Description			
R219	1-249-425-11	CARBON	4.7K	5%	1/4W
R220	1-249-433-11	CARBON	22K	5%	1/4W
R221	1-249-418-11	CARBON	1.2K	5%	1/4W
R222	1-249-433-11	CARBON	22K	5%	1/4W
R223	1-249-433-11	CARBON	22K	5%	1/4W
R224	1-249-433-11	CARBON	22K	5%	1/4W
R225	1-249-433-11	CARBON	22K	5%	1/4W
R226	1-215-493-00	CARBON	1M	5%	1/4W
R227	1-215-493-00	CARBON	1M	5%	1/4W
R228	1-247-883-00	CARBON	150K	5%	1/4W
R229	1-247-883-00	CARBON	150K	5%	1/4W
R301	1-215-454-00	CARBON	24K	5%	1/4W
R302	1-249-433-11	CARBON	22K	5%	1/4W
R303	1-249-431-11	CARBON	15K	5%	1/4W
R304	1-249-431-11	CARBON	15K	5%	1/4W
R305	1-215-437-00	METAL	4.7K	1%	1/6W
R306	1-249-417-11	CARBON	1K	5%	1/4W
R307	1-247-692-11	CARBON	22	5%	1/4W
R308	1-249-405-11	CARBON	100	5%	1/4W
R309	1-215-437-00	METAL	4.7K	1%	1/6W
R310	1-215-472-00	CARBON	130K	5%	1/4W
R311	1-215-479-00	CARBON	270K	5%	1/4W
R312	1-249-435-11	CARBON	33K	5%	1/4W
R313	1-249-440-11	CARBON	82K	5%	1/4W
R314	1-249-425-11	CARBON	4.7K	5%	1/4W
R315	1-249-423-11	CARBON	3.3K	5%	1/4W
R316	1-249-439-11	CARBON	68K	5%	1/4W
R317	1-249-438-11	CARBON	56K	5%	1/4W
R320	1-247-880-00	CARBON	110K	5%	1/4W
R321	1-249-441-11	CARBON	100K	5%	1/4W
R322	1-247-880-00	CARBON	110K	5%	1/4W
R323	1-249-441-11	CARBON	100K	5%	1/4W
R325	1-215-486-00	CARBON	510K	5%	1/4W
R326	1-249-414-11	CARBON	560	5%	1/4W
R327	1-249-433-11	CARBON	22K	5%	1/4W
R328	1-249-429-11	CARBON	10K	5%	1/4W
R329	1-249-441-11	CARBON	100K	5%	1/4W
R330	1-215-434-00	METAL	3.6K	1%	1/6W
R331	1-249-441-11	CARBON	100K	5%	1/4W
R332	1-215-493-00	CARBON	1M	5%	1/4W
R333	1-249-434-11	CARBON	27K	5%	1/4W
R334	1-249-429-11	CARBON	10K	5%	1/4W
R335	1-249-441-11	CARBON	100K	5%	1/4W
R336	1-249-441-11	CARBON	100K	5%	1/4W
R337	1-215-469-00	METAL	100K	1%	1/6W
R338	1-215-469-00	METAL	100K	1%	1/6W
R341	1-249-429-11	CARBON	10K	5%	1/4W
R342	1-249-417-11	CARBON	1K	5%	1/4W
R343	1-249-417-11	CARBON	1K	5%	1/4W
R345	1-249-417-11	CARBON	1K	5%	1/4W
R346	1-249-417-11	CARBON	1K	5%	1/4W
R347	1-249-417-11	CARBON	1K	5%	1/4W
R348	1-249-417-11	CARBON	1K	5%	1/4W
R349	1-249-411-11	CARBON	330	5%	1/4W
R360	1-249-424-11	CARBON	3.9K	5%	1/4W
R361	1-249-438-11	CARBON	56K	5%	1/4W
R602	1-249-431-11	CARBON	15K	5%	1/4W
R603	⚠1-212-857-00	(E)...FUSIBLE	10	5%	1/4W

Ref.No.	Part No.	Description			
R604	1-249-424-11	(US)..CARBON	3.9K	5%	1/4W
R604	1-247-833-00	(E)...CARBON	1.2K	5%	1/4W
R605	1-249-417-11	CARBON	1K	5%	1/4W
R606	1-215-440-00	CARBON	6.2K	5%	1/4W
R607	1-249-416-11	CARBON	820	5%	1/4W
R609	1-249-438-11	CARBON	56K	5%	1/4W
R610	1-249-441-11	CARBON	100K	5%	1/4W
R611	1-215-470-00	CARBON	110K	5%	1/4W
R612	1-249-441-11	CARBON	100K	5%	1/4W
R613	1-215-470-00	CARBON	110K	5%	1/4W
R615	1-249-436-11	CARBON	39K	5%	1/4W
R616	1-249-435-11	CARBON	33K	5%	1/4W
R617	1-249-417-11	CARBON	1K	5%	1/4W
R618	1-249-417-11	CARBON	1K	5%	1/4W
R619	1-249-429-11	CARBON	10K	5%	1/4W
R620	1-249-416-11	CARBON	820	5%	1/4W
R621	1-249-406-11	CARBON	120	5%	1/4W
R622	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-433-11	CARBON	22K	5%	1/4W
R624	1-249-433-11	CARBON	22K	5%	1/4W
R625	1-249-433-11	CARBON	22K	5%	1/4W
R626	1-249-433-11	CARBON	22K	5%	1/4W
R627	1-249-433-11	CARBON	22K	5%	1/4W
R628	1-249-433-11	CARBON	22K	5%	1/4W
R629	1-249-421-11	CARBON	2.2K	5%	1/4W
R630	1-215-493-00	CARBON	1M	5%	1/4W
R633	1-249-417-11	CARBON	1K	5%	1/4W
R634	1-249-417-11	CARBON	1K	5%	1/4W
R635	1-249-417-11	CARBON	1K	5%	1/4W
R636	1-249-417-11	CARBON	1K	5%	1/4W
R639	1-249-425-11	CARBON	4.7K	5%	1/4W
R640	1-249-425-11	CARBON	4.7K	5%	1/4W
R641	1-249-425-11	CARBON	4.7K	5%	1/4W
R642	1-249-425-11	CARBON	4.7K	5%	1/4W
R643	1-249-425-11	CARBON	4.7K	5%	1/4W
R644	1-249-433-11	CARBON	22K	5%	1/4W
R647	1-247-863-00	CARBON	22K	5%	1/4W
R648	1-247-863-00	CARBON	22K	5%	1/4W
R649	1-249-433-11	CARBON	22K	5%	1/4W
R650	1-249-417-11	CARBON	1K	5%	1/4W
R651	1-249-417-11	CARBON	1K	5%	1/4W
R653	1-249-417-11	CARBON	1K	5%	1/4W
R654	1-249-417-11	CARBON	1K	5%	1/4W
R656	1-249-425-11	CARBON	4.7K	5%	1/4W
R670	1-249-417-11	CARBON	1K	5%	1/4W
RV1	1-228-995-00	RES, ADJ, CARBON 22K (E-F BALANCE)			
RV2	1-228-993-00	RES, ADJ, CARBON 4.7K (FOCUS BIAS)			
RV3	1-228-995-00	RES, ADJ, CARBON 22K (FOCUS GAIN)			
RV4	1-228-995-00	RES, ADJ, CARBON 22K (TRACKING GAIN)			
RV5	1-228-990-00	RES, ADJ, METAL GLAZE 1K (RF PLL)			
SW101	1-571-305-11	SWITCH, PUSH (1 KEY)(POWER)			
SW103	1-554-205-00	SWITCH, PUSH (CLOSE)			
SW104	1-571-300-11	SWITCH, ROTARY (OPEN)			
SW105	1-571-453-11	SWITCH, LEVER SLIDE (DOWN)			
SW106	1-554-303-21	SWITCH, KEY BOARD (■)			
SW107	1-554-303-21	SWITCH, KEY BOARD (▲OPEN/CLOSE)			

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description
SW108	1-554-303-21	SWITCH, KEY BOARD (D3)
SW109	1-554-303-21	SWITCH, KEY BOARD (D1)
SW110	1-554-303-21	SWITCH, KEY BOARD (▶/II)
SW111	1-554-303-21	SWITCH, KEY BOARD (I◀◀)
SW112	1-554-303-21	SWITCH, KEY BOARD (D4)
SW113	1-554-303-21	SWITCH, KEY BOARD (TIME)
SW114	1-554-303-21	SWITCH, KEY BOARD (DISK SKIP)
SW115	1-554-303-21	SWITCH, KEY BOARD (▶▶I)
SW116	1-554-303-21	SWITCH, KEY BOARD (D5)
SW117	1-554-303-21	SWITCH, KEY BOARD (D2)
S252	1-571-274-11	SWITCH, LEAF (LIMIT IN)
T101	⚠1-449-216-11	(US)..TRANSFORMER, POWER
	⚠1-449-218-11	(E)...TRANSFORMER, POWER
X601	1-567-686-11	OSCILLATOR, CERAMIC (4MHz)
X602	1-567-741-11	VIBRATOR, CRYSTAL (16MHz)
X603	1-577-082-11	VIBRATOR, CERAMIC (6MHz)
VS101	⚠1-571-309-11	(E)... SWITCH (VOLTAGE SELECTOR)

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-558-543-11	CORD, CONNECTION
*3-704-346-01	SHEET (STANDARD), PROTECTION
3-769-921-21	(US)..MANUAL, INSTRUCTION
3-769-921-11	(E)...MANUAL, INSTRUCTION
*4-924-418-01	PLATE (TRANSPORT), LOCK
*4-924-456-01	CUSHION (LEFT)
*4-924-457-01	CUSHION (RIGHT)
*4-924-458-11	INDIVIDUAL CARTON

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Troubleshooting Guide

The following checks will assist in the correction of most problems which you may encounter with your unit. Before going through the check list below, first refer back to the connection and operating procedures.

Trouble	Causes	Remedy
No audio from one or both channels	Incorrect operation of the amplifier	Operate correctly.
	Loose connection	Connect the cords firmly.
Play does not begin.	No disc in the disc compartment	Put disc(s) in the compartment.
	The player is in the pause mode.	Press ▶ II (or II on the remote commander) to release pause.
	Moisture condensation	Leave the player turned on for about an hour.
	The disc is set upside down.	Set the disc with the label side up.
	The disc is tilted.	Set the disc correctly.
	The disc is extremely dirty.	Clean the disc.
Discs cannot be played continuously.	Play did not start from the disc in the DISC 1 tray.	Press DISC SELECT 1 to start play.
Remote commander does not operate the unit.	The batteries are exhausted.	Replace both batteries.
	The remote commander is not pointed at the remote control sensor.	Point the remote commander to the sensor.
	There is an obstacle between the remote commander and the unit.	Remove the obstacle.
	The remote commander is too far from the unit.	Move closer.
Any operation is not possible.	The internal control program may not run.	Turn OFF the power and turn it ON again.

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Audio Group

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